Leading education and engineering actors from Estonia, Greece and Slovakia developed new ways to promote innovation and manufacturing

The European Union’s manufacturing sector counts for more than two million companies and employs approximately 32 million people, accounting for about 14% of the total GDP. While the sector is an important base for growth and prosperity, the shortage of skilled workforce is threatening its further development and future prospects.

One of the main challenges faced by the sector is attracting new generations of employees, as there are strong misperceptions related to the work in this field. Manufacturing is considered low tech, dangerous, it is often associated with outdated or dirty work environment. The reality is that the sector has been the subject of a significant technological transformation in the past decades and nowadays represents an advanced and high-value industry, focused on innovation and development. Manufacturing provides exciting career opportunities for every education level, including engineers, designers and programmers with bachelor’s and master’s degrees and researchers and scientists with PhDs.

From April to October 2020, **over 600 young pupils and teachers from secondary schools from Estonia, Greece and Slovakia** were involved in activities aiming to showcase the multiple aspects of product development and creation and ignite young people’s interest towards careers in manufacturing. Participants were introduced to robotics, virtual reality, augmented reality, 3D printing and had the possibility to explore how these areas are applicable to real world industry processes.

The initiative was carried the framework of the project “**Interactive Manufacturing  @ Schools**” and was implemented a consortium consisting of 3 leading European universities – **University of Patras, Slovak University of Technology in Bratislava, University of Tartu** and a modern engineering company from Slovakia – **Spinea**. The project was possible thanks to the financial support of the European Institute of Innovation & Technology (EIT), a body created by the European Union in 2008 to strengthen Europe’s ability to innovate.

The purpose of the Project was **to create and implement an effective mechanism of raising awareness and interest on the wide area of opportunities generated by the manufacturing and innovation.** The activities targeted target the pupils and teachers from secondary schools and aimed to provide them with relevant learning experiences and practical tools to understand, test and explore the multiple facets of product creation.

Due to the pandemic situation, the activities took place virtually. “Interactive Manufacturing @ Schools” team had to find new ways to engage students when physical meetings were not possible. There were many innovative and interesting methods developed to get students interested in manufacturing and technical fields, such as webinars, online activities and short term workshops at the universities. Feedback was collected from all the activities and put together as best practices. All activities and results can be found on[**www.manufacturing4schools.eu**](http://www.manufacturing4schools.eu/)

On medium term, the actions are expected to increase the number of students at technical specialities and equip them already at the school level with a set of valuable abilities and motivations for their future careers. Subsequently, this will lead to increasing the number of skilled and educated professionals ready to enter the manufacturing market and to boost the innovation in the involved countries.

More information on the project InM@S:

[*https://www.facebook.com/manufacturing4schools*](https://www.facebook.com/manufacturing4schools)                                    [*https://www.instagram.com/manufacturing4schools****/***](https://www.instagram.com/manufacturing4schools/)                                                                                         [*https://twitter.com/Manufacturing4S*](https://twitter.com/Manufacturing4S)

Background information

**University of Tartu (UT)** is Estonia’s leading centre of research and training. UT belongs to the top 1.2% of world’s best universities and is among the best universities of New Europe (EU13). The institutes of Technology and Computer Science at UT offer international Masters and Doctoral programmes in Robotics and Computer Engineering, Copmuter Science and Security and Cloud Computing.

**Laboratory for Manufacturing Systems & Automation (LMS), University of Patras**. The LMS is oriented on research and development in cutting edge scientific and technological fields. LMS is involved in a number of research projects funded by the CEU and European industrial partners. Particular emphasis is given to the co-operation with the European industry as well as with a number of “hi-tech” firms.

**Slovak University of Technology in Bratislava (STU)** is the largest and most significant technical university in Slovakia and it is a modern European educational and research institution, founded in 1937. In the area of scientific and research activities STU successfully joins European Union programmes and annually deal with about 500 research projects funded through grants and hundreds of research contracts commissioned by businesses.

**SPINEA, s.r.o.** is a modern Slovak mechanical engineering company involved in the development, manufacture and sale of high precision reduction gears and actuators under the DriveSpin trademark. The company was founded in 1994 and the impulse for it started with an invention of a Slovak design engineer. DriveSpin actuators are manufactured serially on the basis of a granted international patent.

Project “**Interactive Manufacturing @ Schools**” refers to **EIT Manufacturing**, an Innovation Community within the European Institute of Innovation & Technology, that brings together 50 European leading partners from business, education and research, from 17 countries to add unique value to European products, processes, services – and inspire the creation of globally competitive and sustainable manufacturing.

**EIT Manufacturing — Making Innovation Happen!**

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